Statement of Work (SOW)

1.0   GENERAL

1.1   Requiring Office: Federal Aviation Administration (FAA), Information Technology Staff, AJF-A

    1.1.1   Task Name: VAX 4300 Emulation

    1.1.2   Performance Time: To be completed no later than January 31, 2010.

        1.1.2.1   Basic Deliverables: under two (2) separate invoices as per Paragraph 1.5 of this SOW.
        1.1.2.1.1 Project Plan with milestones and risk list.
        1.1.2.1.2 Reports, software code or patches necessary to produce an end-to-end solution that enables OpenVMS emulation of the VAX 4300 onto a Windows or Solaris environment.

    1.1.3   FAA Contracting Officer's Representative (COR) and Technical Representative (TR):

        1.1.3.1   Assignment of Primary COR for this task:

        Jackie Seaman
        Resource Staff, AJF-14
        Operating Budgets Office
        Mike Monroney Aeronautical Center
        Oklahoma City, OK 73125
        (405) 954-7881

        1.1.3.2   TR for this task:

        Kathe Milstein
        Information and Technology Staff, AJF-A7
        ATO Information Technology Office
        Silver Spring, MD 20910
        301-713-2916 x161

1.2   **Scope of Work**: The FAA/ATO Finance Services, Information Technology office utilizes one VAX 4300 Server. There are virtual memory issues for the CARS application as data volumes have increased and the VAX 4300 does not have enough virtual memory to adequately load and process all the data. Physical memory limitations on the VAX 4300 has become insufficient when running various data subscription update processes, forcing AMBSS to clear disk space in order to continue the data update processes. Additionally, the VAX 4300 is an obsolete hardware technology.

The objective of this effort is to create a VMS environment on a Windows or Solaris operating system to emulate the existing VAX environment. A solution would allow the FAA to run all VAX applications on an emulated environment.

The contractor shall provide the necessary support to accomplish the tasks defined in the Statement of Work (SOW) in an efficient and effective manner. The contractor shall be responsible for *implementing and deploying* a "turnkey" solution for emulating all applications on the VAX 4300 onto a Windows or Solaris operating system.

The contractor shall produce a project plan and participate in weekly progress and status meetings. During the weekly meetings the contractor shall document open action items, closed actions items,

new action items, cumulative accomplishments, weekly activities, future plans and objectives, outstanding issues, critical issues, risks encountered and any other pertinent data related to the effort.

1.3   **Personnel Qualifications**: Contractor personnel providing the required services shall have knowledge of OpenVMS, COBOL, Oracle 10g, and Solaris 9 & 10. Additionally, the contractor must provide skills to understand, coordinate, and deliver project plans to the stakeholders.

1.4   **Work Location**: Contractor shall conduct services at the FAA, ATO-F offices located at 1305 East West Highway, 4th Floor, Silver Spring, MD, 20910 and/or 10201 Good Luck Road, Glenn Dale, MD 20706, and/or at the contractor's facility.

1.5   **Invoice Procedures**: This SOW defines provisions for the contractor to issue two (2) firm-fixed priced invoices during the execution of the contract. The contractor may issue the first invoice after delivery, review, and acceptance by the COR of the project plan and risk list as identified in paragraph 8.1. The contractor may issue the second invoice only after delivery, review, and acceptance of all the deliverables defined in paragraphs 8.2 through 8.6. In accordance with the project plan under 8.1, the deliverables in paragraphs 8.2 through 8.6 may be delivered, reviewed, and accepted by the COR in planned intervals but the contractor can only issue the second invoice following the acceptance of all deliverables.

    1.5.1   **Invoice 1**: Firm-Fixed Price – Project Plan and Risk List. Also called **Delivery 1**.
        1.5.1.1   Project Plan with major milestones required to complete the project and the estimated dates/duration to reach individual milestones (minimum identification of deliverables in par. 8.2 through 8.6), and a risk list.

    1.5.2   **Invoice 2**: Firm-Fixed Price - All other deliverables. Also called **Delivery 2**.
        1.5.2.1   Invoice will show a list of deliverables as delineated in paragraphs 8.2 through 8.6 of this SOW, with one firm-fixed price.

2.0   DEFINITION OF TERMS:

Unless otherwise defined in this SOW, all terms and conditions shall be defined in the Contract.

2.1   AJF – Finance Services, Air Traffic Organization
2.2   AJW – Aviation System Standards
2.3   AMBSS – Application Management Branch Silver Spring
2.4   ATO – Air Traffic Organization
2.5   CARS – Civilian Air Routes System
2.6   TR – Technical Representative
2.7   FAA – Federal Aviation Administration
2.8   OpenVMS – Open Virtual Memory System
2.9   SOW – Statement of Work
2.10   VAX – Virtual Address eXtension

3.0   GOVERNMENT FURNISHED PROPERTY AND SERVICES

The Government will provide adequate and necessary workspace including basic office equipment, utilities, telephone, and related services when performance is required at a Government facility. The FAA shall provide functional and operational access to existing materials that may facilitate the completion of this project in accordance with applicable contract terms. Additionally, the government will provide the Windows or Solaris hardware necessary to meet the deliverables of this SOW. However, the FAA reserves the right to accept or reject a proposal where the contractor's solution demands any hardware not consistent with the FAA's current inventory of hardware assets.

4.0   CONTRACTOR FURNISHED PROPERTY AND SERVICES

4.1   The contractor shall provide qualified personnel, facilities, related equipment, supplies, and services necessary for performance of this SOW.

4.2   The contractor shall include all necessary software, middleware, code and/or components in the firm-fixed price of this effort to meet the requirements as specified in this SOW.

4.3   The contractor shall develop all deliverables as defined in paragraph 8.0. Acceptance is contingent on compatibility of the deliverables with FAA standards. Should the FAA change criteria or standards as defined and documented, the contractor will be notified, in writing, of such change(s) so that any modifications to deliverables can be appropriately updated. Modifications to deliverables not approved by the appropriate FAA/AJW personnel and procedures shall be at the contractor's expense.

5.0   REQUIRED TASKS:

5.1   The contractor shall assist in the installation and configure the emulation solution onto FAA test, and production servers that will emulate the VAX 4300 onto a Windows or Solaris operating system.

5.2   The contractor shall develop and utilize a project plan to *implement and deploy* a turnkey solution to emulate *all legacy applications running on a VAX 4300 environment onto* a Windows or Solaris environment.

5.3   The contractor shall use the emulated VAX environment to install and run existing software, applications and/or components that are currently running on the existing VAX 4300 hardware.

6.0   REPORTS

6.1   The contractor shall submit progress reports bi-weekly to the COR and TR. The reports shall outline milestones completed and percent of contract completed as designated in the plan submitted as per paragraph 8.1 of this SOW. The report will identify whether the project is on time per the estimated milestone completion dates, emerging and encountered risks, as well as risk mitigation strategies and activities.

6.2   The contractor, as requested by the COR, shall accomplish mission critical reports. Mission critical is defined as reporting items that have an impact on schedule or the overall accomplishment of tasks delineated by this SOW.

7.0   REGULATIONS AND MANUALS

Performance under this task requires the contractor to adhere to all applicable FAA procedures and guidelines regarding security, facility access, and conduct.

8.0   SPECIFICATIONS / DELIVERABLES

8.1   **Project Plan and Risk List.** The contractor shall deliver a Project Plan and Risk List to the COR that details the VAX emulation turnkey solution. The project plan shall contain the major milestones and estimated duration and completion dates of each milestone along with any other details to meet the objectives of all deliverables defined in this SOW. The risk list shall identify possible known risks to the success of the project and be sorted in decreasing order of importance.

8.2   **A Solution Design Document.** The contractor shall deliver to the COR and technical representative, a solution design document that describes how the contractors solution will be implemented and deployed. The design document shall contain enough information to ensure the FAA can adequately

maintain any hardware components, code, middleware, licensing, configuration or any other relevant system requirements.

    8.2.1   **Solution Design document shall contain Hardware & Operating System Specifications.** The contractor shall provide details in their design document that describe how their solution will run and be maintained on the new virtualized hardware environment.

    8.2.2   **Solution Design document shall contain Software and/or Middleware specifications.** The contractor shall provide details in their design document that describe how the software and/or any middleware will run and be maintained when installed.

8.3 **List of VAX 4300 applications, code and/or components to be moved.** The contractor shall produce a document that lists all existing VAX 4300 system applications, code and/or components to be moved, installed, tested and deployed onto new emulated environments. The contractor shall work with the TR to identify the list. The list shall include a short name for the application, code and/or component name, the location on the hardware, and any other necessary elements that facilitates the smooth transition from the VAX 4300 hardware to the emulated environment.

8.4 **Solution** *& Implementation* **– Emulated VAX4300 environment.** *The contractor shall implement and deploy an emulated VAX environment running legacy FAA applications onto a Dell Windows 2003 or Sun Solaris 10 environment. A document shall also be provided indicating the date and time the installation of the two (2) emulated environments were completed: One (1) on a test environment and the other on a production environment.*

8.5 **Functional software Deliverables.** The contractor shall deliver a document that illustrates how each identified legacy application or software component was identified, installed, and operates on the new emulated production environment. The application, systems and/or component deliverables shall be accepted after passing FAA acceptance criteria. These criteria are defined as a byte to byte match of a full cycle data deliverable run in parallel with the existing systems running on the existing VAX 4300 hardware. Due to emulation, the contractor may provide an acceptable alternative to byte to byte comparison as long as the solution meets the task objectives defined under paragraph 5.0 of this SOW and the TR agrees that the alternative satisfies the requirements of this SOW.

8.6 **Complete a briefing for FAA Personnel.** The contractor shall conduct a briefing following the delivery of 8.1-8.6. The target audience for the briefing shall include but are not limited to the COR, Technical Representative, and any other relevant stakeholders deemed appropriate by the FAA. The briefing shall illustrate how the contractor met the contract deliverables over the period-of-time specified. The contractor shall develop a document that contains a signature block to illustrate the delivery of the deliverables defined in paragraphs 8.2 through 8.6. The document must be signed by the technical representative to illustrate the all deliverables have been completed and accepted by the technical representative. Note: The acceptance by the technical representative is not an alternative to Contract Deliverable acceptance by the COR. This document is to be used as proof that both the contractor and technical representative agree that deliverables have been met.

9.0 **Travel:** Travel costs associated with this effort are not billable to the FAA as a separate invoice. Therefore, the contractor must include such costs as part of their firm-fixed price proposal and agreement.

10.0 **Training:** The contractor is obligated to ensure that personnel have adequate training to meet the requirements of this SOW. The FAA is not responsible for training and the contractor shall provide such training at their expense and therefore should take the necessary actions to ensure that the cost of keeping personnel adequately trained is included in costs associated with this contract.